

12112600 BIG SOOS CREEK ABOVE HATCHERY, NEAR AUBURN, WA

Puget Sound Basin
Duwamish Subbasin

LOCATION.--Lat 47°18'45", long 122°09'51" referenced to North American Datum of 1927, in NW ¼ NW ¼ sec.15, T.21 N., R.5 E., King County, WA, Hydrologic Unit 17110013, on left bank 0.2 mi upstream from fish hatchery, 2.7 mi east of Auburn, and at mile 0.9.

DRAINAGE AREA.--66.7 mi², excludes 3.67 mi² in vicinity of Youngs Lake (flow from which has been diverted to Cedar River since about 1935).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1960 to current year. Chemical analyses October 1962 to October 1971, December 1995 to April 1998, August 2005, and April to August 2007. Specific Conductance March 1996 to September 1998. Water Temperature March 1996 to September 1998, October 2006 to December 2007.

GAGE.--Water-stage recorder. Datum of gage is 77.2 ft above NGVD of 1929.

REMARKS.--No estimated daily discharges. Records good. City of Seattle diverts probably less than 2 ft³/s from Youngs Lake into Little Soos Creek, a tributary, during low flows. Prior to October 1966, fish hatchery 0.5 mi upstream from station diverted up to 19 ft³/s which was returned downstream from the station. U.S Geological Survey satellite telemeter at station. Chemical analyses October 1962 to September 1971, at site 1.0 mi upstream.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--42 years (water years 1967-2008), 123 ft³/s, 25.09 in/yr, 89,230 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,200 ft³/s, Feb. 9, 1996, gage height, 8.88 ft, estimated from slope-area measurement of peak flow; minimum discharge, 11 ft³/s, Sept. 5, 1963, gage height, 1.07 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 440 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 4	0545	*564	*5.20
No other peak greater than base discharge			

Minimum discharge, 27 ft³/s, Sept. 15, 18, gage height, 2.37 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	54	35	44	140	153	165	214	135	90	50	42	32
2	59	35	87	146	145	156	204	131	88	49	46	33
3	64	35	412	153	135	150	190	129	101	58	44	32
4	53	35	503	152	126	144	183	128	108	63	43	32
5	43	35	352	147	126	140	188	125	104	57	39	31
6	37	34	262	140	129	137	190	119	126	60	39	34
7	38	35	205	139	148	133	201	116	140	56	39	30
8	44	35	173	147	157	133	195	111	109	54	38	29
9	42	35	153	152	283	131	199	109	95	52	41	32
10	40	42	139	196	331	129	185	108	102	50	39	30
11	43	42	125	252	319	142	179	111	95	48	42	30
12	40	42	117	247	285	137	171	110	90	48	38	29
13	37	42	112	229	252	140	165	110	84	48	37	28
14	37	40	115	211	229	173	163	113	80	45	36	32
15	35	41	115	199	214	191	178	109	78	45	36	28
16	35	66	110	178	202	176	168	103	73	44	39	30
17	36	73	107	164	193	188	162	98	70	45	36	31
18	39	74	116	154	188	172	156	95	70	43	41	28
19	47	62	146	149	177	164	154	93	67	44	39	30
20	79	57	174	149	170	162	152	112	64	42	48	35
21	64	52	154	143	166	157	149	116	63	44	52	50
22	53	48	153	135	160	153	147	128	64	42	41	42
23	46	46	172	127	156	163	148	120	62	41	38	37
24	43	44	196	122	153	185	144	112	60	41	34	37
25	43	43	181	117	148	171	139	107	59	41	39	37
26	41	43	176	119	143	182	134	103	56	43	39	34
27	39	48	169	130	144	200	131	101	55	40	42	35
28	39	46	180	123	145	202	138	97	53	42	39	32
29	38	47	170	126	147	217	144	94	50	40	37	31
30	36	44	158	131	---	227	140	91	54	41	35	32
31	36	---	147	137	---	218	---	90	---	40	32	---
Total	1,380	1,356	5,423	4,854	5,324	5,138	5,011	3,424	2,410	1,456	1,230	983
Mean	44.5	45.2	175	157	184	166	167	110	80.3	47.0	39.7	32.8
Max	79	74	503	252	331	227	214	135	140	63	52	50
Min	35	34	44	117	126	129	131	90	50	40	32	28
Ac-ft	2,740	2,690	10,760	9,630	10,560	10,190	9,940	6,790	4,780	2,890	2,440	1,950
Cfs/m	0.67	0.68	2.62	2.35	2.75	2.48	2.50	1.66	1.20	0.70	0.59	0.49
In.	0.77	0.76	3.02	2.71	2.97	2.87	2.79	1.91	1.34	0.81	0.69	0.55

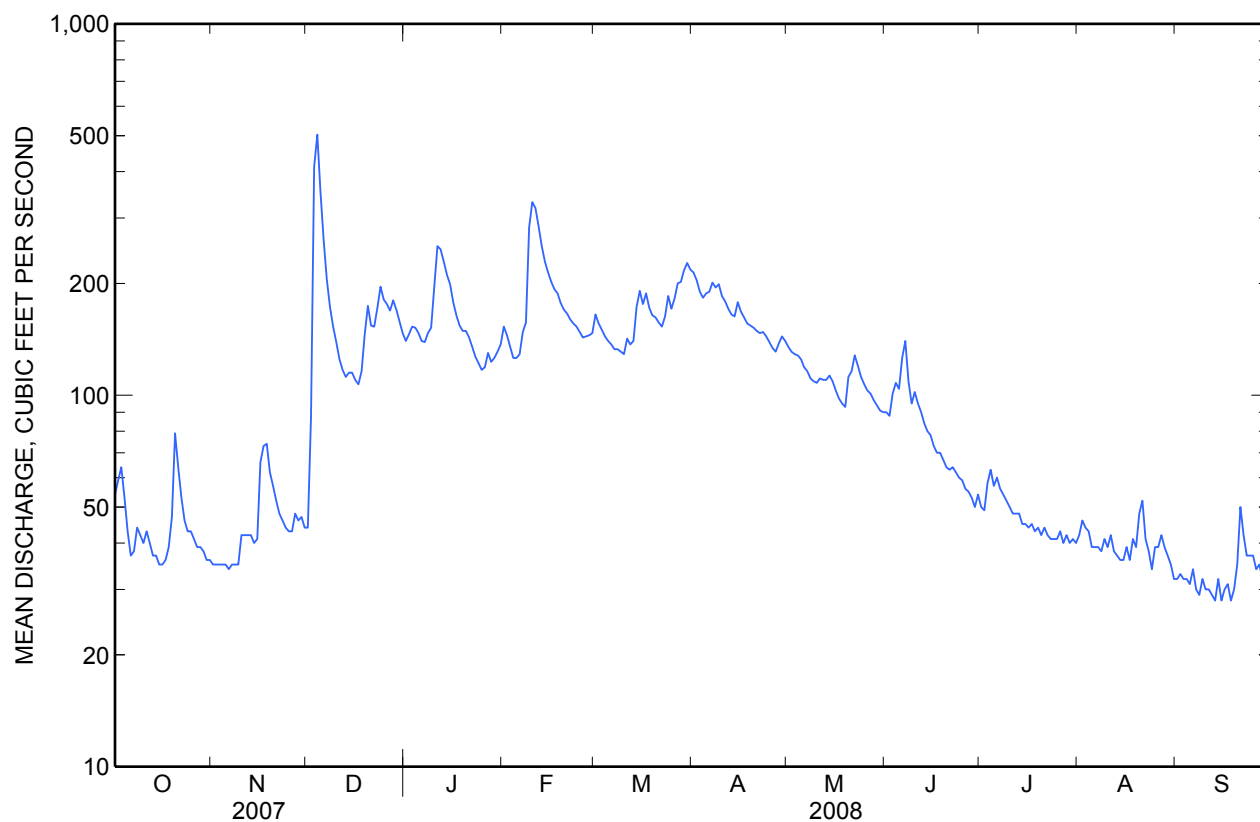
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	42.7	112	208	253	235	203	153	96.9	71.6	43.6	32.6	32.8
Max	90.9	433	401	535	555	453	343	174	150	78.6	46.8	57.9
(WY)	(1998)	(1991)	(1976)	(1997)	(1996)	(1972)	(1991)	(1984)	(1990)	(1997)	(1976)	(1978)
Min	24.6	32.6	58.0	84.3	73.6	102	74.8	57.0	34.7	26.4	22.4	20.4
(WY)	(2003)	(2003)	(1977)	(1977)	(1977)	(2001)	(2004)	(1985)	(1992)	(1985)	(2003)	(1995)

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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1967 - 2008	
Annual total	43,520		37,989			
Annual mean	119		104		123	
Highest annual mean					195	
Lowest annual mean					63.5	
Highest daily mean	703	Jan 3	503	Dec 4	3,580	Feb 9, 1996
Lowest daily mean	27	Sep 11	28	Sep 13	18	Sep 16, 1995
Annual seven-day minimum	27	Sep 8	29	Sep 12	18	Sep 18, 1995
Annual runoff (ac-ft)	86,320		75,350		89,230	
Annual runoff (cfsm)	1.79		1.56		1.85	
Annual runoff (inches)	24.27		21.19		25.09	
10 percent exceeds	255		188		270	
50 percent exceeds	64		96		81	
90 percent exceeds	30		35		30	



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1962 to October 1971, March 1996 to September 1998, October 2006 to December 2007 (discontinued).

CHEMICAL DATA: October 1962 to October 1971; December 1995 to April 1998; August 2005; April to June 2007, August 2007.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1996 to September 1998.

WATER TEMPERATURE: March 1996 to September 1998, October 2006 to December 2007 (discontinued).

INSTRUMENTATION.--Temperature recorder with 15-minute logging interval from October to December 2006; one-hour logging interval from December 2006 to December 2007.

REMARKS.--Temperature record is good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 162 microsiemens Oct. 17, 1996, but may have been higher during periods of missing record; minimum, 69 microsiemens Dec. 29, 1996, but may have been lower during periods of missing record.

WATER TEMPERATURE: Maximum 22.0°C July 28, 1998; minimum 2.4°C Jan. 14 - 15, 2007.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 12.2°C on October 1, 2007; minimum recorded, 3.4°C on November 23, 2007.

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TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	12.2	11.0	11.5	8.5	7.0	7.7	5.3	4.8	5.0	---	---	---
2	11.9	11.5	11.7	7.1	5.4	6.4	5.6	4.6	5.0	---	---	---
3	11.9	10.7	11.4	9.6	7.0	8.2	8.1	5.6	7.1	---	---	---
4	11.0	10.2	10.6	10.5	9.0	9.5	8.7	8.1	8.4	---	---	---
5	10.5	9.6	10.0	9.1	7.6	8.6	8.2	7.3	7.7	---	---	---
6	10.7	9.3	10.0	8.8	7.0	7.9	7.3	6.8	6.9	---	---	---
7	11.8	10.5	11.1	9.8	8.4	9.1	6.8	6.2	6.6	---	---	---
8	11.6	10.4	11.1	10.5	9.3	9.8	6.2	4.5	5.4	---	---	---
9	11.6	10.5	11.1	10.5	9.3	9.9	5.1	4.2	4.6	---	---	---
10	12.1	11.2	11.6	10.1	8.4	9.5	5.6	5.1	5.4	---	---	---
11	11.5	9.9	10.7	9.5	8.1	8.7	5.6	5.1	5.4	---	---	---
12	11.5	10.4	10.8	9.3	8.1	8.6	---	---	---	---	---	---
13	10.9	8.8	9.9	8.4	6.7	7.7	---	---	---	---	---	---
14	10.9	8.8	9.9	7.8	5.7	6.7	---	---	---	---	---	---
15	10.9	10.2	10.6	9.1	7.6	8.5	---	---	---	---	---	---
16	10.7	9.5	10.2	9.6	9.0	9.2	---	---	---	---	---	---
17	10.1	8.8	9.4	9.3	8.5	9.0	---	---	---	---	---	---
18	10.7	9.1	9.9	8.5	7.8	8.1	---	---	---	---	---	---
19	10.7	9.6	10.3	8.1	7.3	7.8	---	---	---	---	---	---
20	9.8	9.3	9.5	7.6	6.5	7.2	---	---	---	---	---	---
21	10.4	9.6	10.0	6.5	5.1	5.9	---	---	---	---	---	---
22	11.5	9.9	10.6	5.1	4.0	4.6	---	---	---	---	---	---
23	11.5	9.6	10.6	4.5	3.4	4.0	---	---	---	---	---	---
24	10.9	10.2	10.6	5.3	3.7	4.5	---	---	---	---	---	---
25	10.2	8.2	9.3	5.3	4.3	5.0	---	---	---	---	---	---
26	8.4	6.5	7.5	5.4	4.2	4.7	---	---	---	---	---	---
27	8.1	6.4	7.1	6.0	5.3	5.6	---	---	---	---	---	---
28	8.5	6.2	7.3	5.9	5.1	5.5	---	---	---	---	---	---
29	8.8	7.3	8.0	6.4	5.6	5.9	---	---	---	---	---	---
30	7.9	6.5	7.2	6.0	5.1	5.5	---	---	---	---	---	---
31	7.4	5.6	6.5	---	---	---	---	---	---	---	---	---
Month	12.2	5.6	9.9	10.5	3.4	7.3	---	---	---	---	---	---

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 TEMPERATURE, WATER, DEGREES CELSIUS
 WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	---	---	---	---	---	---	---	---	---
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 TEMPERATURE, WATER, DEGREES CELSIUS
 WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
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